

WP6 introduction

Hybrid Pixel Sensors for 4D Tracking and Interconnection Technologies

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WP6 group meeting
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Deliverable Number	Deliverable Title	Lead Beneficiary	Due Date (in months)		Means of verification
MS22	Wafer layout	FBK	18	✓	Layout design file and report on the design choices, supported by simulations (Task 6.2)
MS23	Preliminary characterization of 3D and LGAD prototypes. Test set-up ready in the laboratories.	CSIC	23	✓	Preliminary characterization on prototypes with the readout systems to be used with the final productions. (Task 6.3)
MS24	Completion of planar sensor productions for ACF	CNRS	18	✓	Planar pixel sensor wafers delivered for interconnection tests (Task 6.4)
MS25	Availability of parts and definition of the technologies for wafer to wafer hybridization	UBONN	18	✓	Wafers delivered to IZM and report on the technologies chosen for the interconnection (Task 6.4)

- All milestones achieved!

Deliverable Number	Deliverable Title	Lead Beneficiary	Type	Dissemination level	Due Date (in months)	comments
D6.1	Completion of common productions	CSIC	Report	Public	30 Oct 2023	Including preliminary char. at foundries
D6.2	Final validation of timing performance of common productions	INFN	Report	Public	46	Before and after irradiations
D6.3	Test of the final ultra-thin hybrid assemblies from wafer to wafer bonding	Bonn	Report	Public	44	Module functionality, interconnection yield and strength
D6.4	Validation of the ACF for large and small pitch assemblies	CERN	Report	Public	45	Small pixel sizes from 25 to 55 μm

First Deliverable is D6.1 in October 2023, agreed with the AidaInnova steering to postpone in order to include what we have achieved so far:
 FBK TI-LGAD, 3D (Mar - May ??); CNM LGAD RD50 and AidaInnova

- First of AidaInnova production, the FBK TI-LGAD, was completed few months ago, see summary at the [last WP6](#). After wafer tests, few wafers have been cuts and parts distributed.
 - Plan is to cut 3 wafers (W1, W6, W10) and send 9 wafers to IZM for hybridization.
 - So far W1 cut and distributed: some sensors sent to Zurich and CERN for tests and Ljubljana for irradiation
 - Requests for samples [here](#):

Wafer	Thickness	Carbon	Trench depth	Trench process
1	45	Y	D2	P2
2	45	Y	D2	P2
3	45	Y	D1	P2
4	45	Y	D1	P1
5	45	Y	D2	P1
6	45		D2	P2
7	45		D2	P2
8	45		D1	P1
9	55	Y	D3	P2
10	55	Y	D2	P2
11	55	Y	D2	P2
12	55		D2	P2

First test beam was for two weeks in February at DESY: **goal was to measure the first simple structures AIDAInnova FBK TI-LGAD production and the CNM I-LGADs** – a first look at the data will be presented today

Next test beam campaigns at CERN

- **One week starting from June 5th**
- Second date after July, not confirmed yet (as the full TB calendar)

Please consider to attend! It is a very useful experience for students and seniors, it is a stable and working setup for timing detectors!

- **Pisa Meeting on Advanced Detectors**
 - to be held in La Biodola, Isola d'Elba, Italy, from May 26 to June 1, 2024)
<https://www.pi.infn.it/pm/>
 - The **deadline** was **January 28, 2024**.
- **BTTB12: Beam Telescopes and Test Beams Workshop”**
 - 15–19 Apr 2024 Edinburgh, UK, <https://indico.cern.ch/event/1323113/overview>
 - The **deadline** was **January 26, 2024**.
- **ICHEP 2024**
 - 18-24 July 2024, Prague , <https://indico.cern.ch/event/1291157/>
 - Abstract submission for talks has been closed on February 29. There is still a possibility to submit abstracts for posters (March 22)
- **IWORiD 2024**
 - 30 June-4 July, Lisbon, <https://indico.cern.ch/event/1284854/>
 - Abstract submission until April 20th

- Remember to quote the AidaInnova acknowledgements when it applies in talks and papers.
 - Please do not forget to include the EC acknowledgement in all your publications (journal articles, conference papers, presentations, internal notes, etc.) related to AIDAinnova and to upload a copy of your publication on [Zenodo](#).

All AIDAinnova publications must include the following acknowledgement text:



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- All the information here:
<https://aidainnova.web.cern.ch/results/publication-committee>
- Access to past publications and documents in Zenodo,
<https://zenodo.org/communities/aidainnova-project>